

ABSTRACT OF THE DISCLOSURE

The present invention provides an optical switch for making part of incident light, which has been made incident on an optical waveguide, selectively emergent to a light emergence portion provided outside the optical waveguide. The optical switch includes a liquid crystal device for selective emergence of the incident light. An arbitrary layer of the liquid crystal device is set such that letting  $\Delta n$  be a difference between a refractive index  $n_0$  of the optical waveguide and a refractive index  $n_1$  of the arbitrary layer of the liquid crystal device, "d" be a thickness of the arbitrary layer, and  $\lambda$  be a wavelength of the incident light, the values of  $\Delta n$ , "d", and  $\lambda$  satisfy a condition of  $2.20 \times 10^{-3} \leq |\Delta n \cdot d \cdot \lambda^{-1}| \leq 3.03 \times 10^{-3}$ . With this optical switch, the uniformity of a light emergence efficiency can be easily realized by making use of a small change region in which the light emergence efficiency is not largely varied. The present invention also provides a display unit using the optical switches.